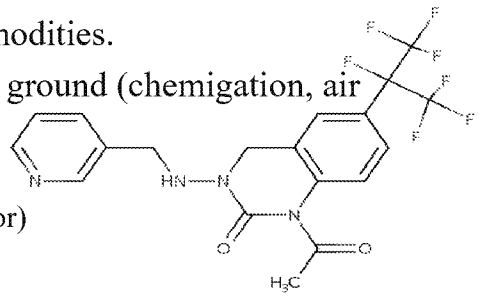
Pyrifluquinazon

- An insecticide first registered for indoor ornamentals in 2013 to control sucking and chewing pests by disturbing their coordination and ability to feed.
- Currently registered for use on multiple commodities.
- Approved application methods include aerial, ground (chemigation, air blast).
- Pending uses:
  - Use in Residential Areas on Ornamentals (Outdoor)
  - Import tolerance (persimmon)



Human Health Risk Picture

- Chemical-specific data were used for the PQZ HHRA. No data gaps were identified in the CFR-required studies and any potential health effects of PQZ would be expected to be captured in these data.
- The target organs of PQZ are the testes, nasal passage, liver, thyroid, hematopoietic system and the kidneys. PQZ is classified as "Not likely to be carcinogenic to humans at levels that do not alter rodent hormone homeostasis."
- Dietary, occupational, and residential assessment endpoints for PQZ are based upon neurotoxicity (acute dietary for the general population), developmental effects (acute dietary ages 13-49), systemic effects noted on the previous slide (chronic dietary for the general population), co-critical developmental and offspring effects (dermal), and portal of entry effects (inhalation).
- **No residential, occupational, or aggregate risks of concern were identified in the HHRA for this proposed use.**
- HED has not identified the need for additional work on the HHRA due to the PFAS classification of PQZ given that the assessment already incorporates the full suite of chemical-specific data and no risks of concern were identified for this proposed use.

PQZ Fate Picture

- Although PQZ degrades into several environmental degradates that would also be classified as PFASs, PQZ not anticipated to bioaccumulate in the environment.

- No drinking water concerns for human health dietary assessment
  - Ornamental use EDWCs less than other registered uses (highest for brassica/stem veg)
    - Ornamental EDWCs – 6.2 µg/L (ppb) acute; 1.51 µg/L (chronic)
    - EDWCs used in dietary assessment – 10.3 µg/L acute; 9.0 µg/L (chronic)

  - While EDWCs greater than 0.070 ppb (70 parts per trillion) health advisory for PFOS/PFOA (combined or individually), no dietary risk concerns based on PQZ specific data

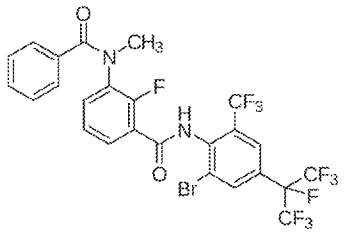
PQZ Ecological Risk Picture

- Complete dataset (may need higher tiered pollinator studies for some uses (not this proposed use) at some point if need to refine risk picture)
- PQZ not anticipated to bioaccumulate in animals
- Potential risks for:
  - Mammals (chronic) – based on reduced body weight
  - Honey bees (acute and chronic for adults) – based on reduced survival
  - Aquatic invertebrates (acute and chronic) – based on reduced survival or reproduction/growth
- While ecological endpoints are based on apical measures (survival, growth, reproduction) as surrogates for potential population effects, chronic studies are intended to capture effects observed by PFASs

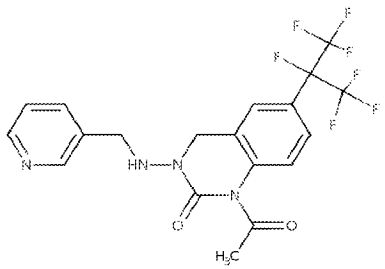
PFAS and Pesticides

Two pesticides classified as PFAS chemicals under both the OPPT and newly revised OECD definition of a PFAS

Broflanilide



Pyrifluquinazon



PFAS and Pesticides

Pyrifluquinazon: Registration Status

- First registered in 2013 for indoor ornamental uses
- Currently registered for use on multiple commodities.
- Approved application methods include aerial, ground (chemigation, air blast).
- **Pending uses:**
- Use in Residential Areas on Ornamentals (Outdoor)
- Import tolerance (persimmon)

Pyrifluquinazon: Risk Picture

- Complete human health database – "Not likely to be carcinogenic to humans at levels that do not alter rodent hormone homeostasis."
- Complete dataset for environmental fate and effects
- No bioaccumulation in the environment or animals

PFAS and Pesticides

Broflanalide: Registration Status

Broflanalide: Risk Picture